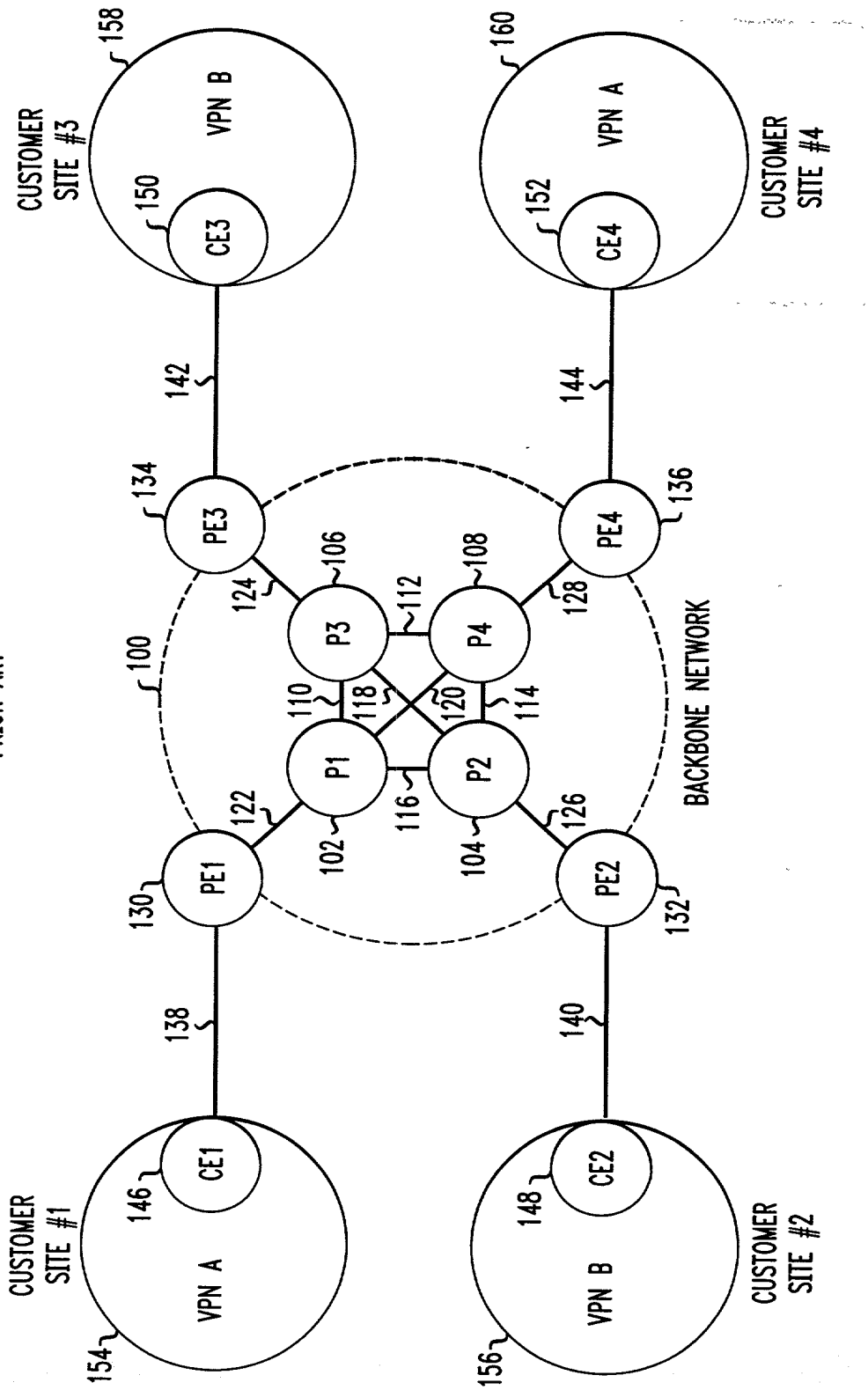


FIG. 1
PRIOR ART

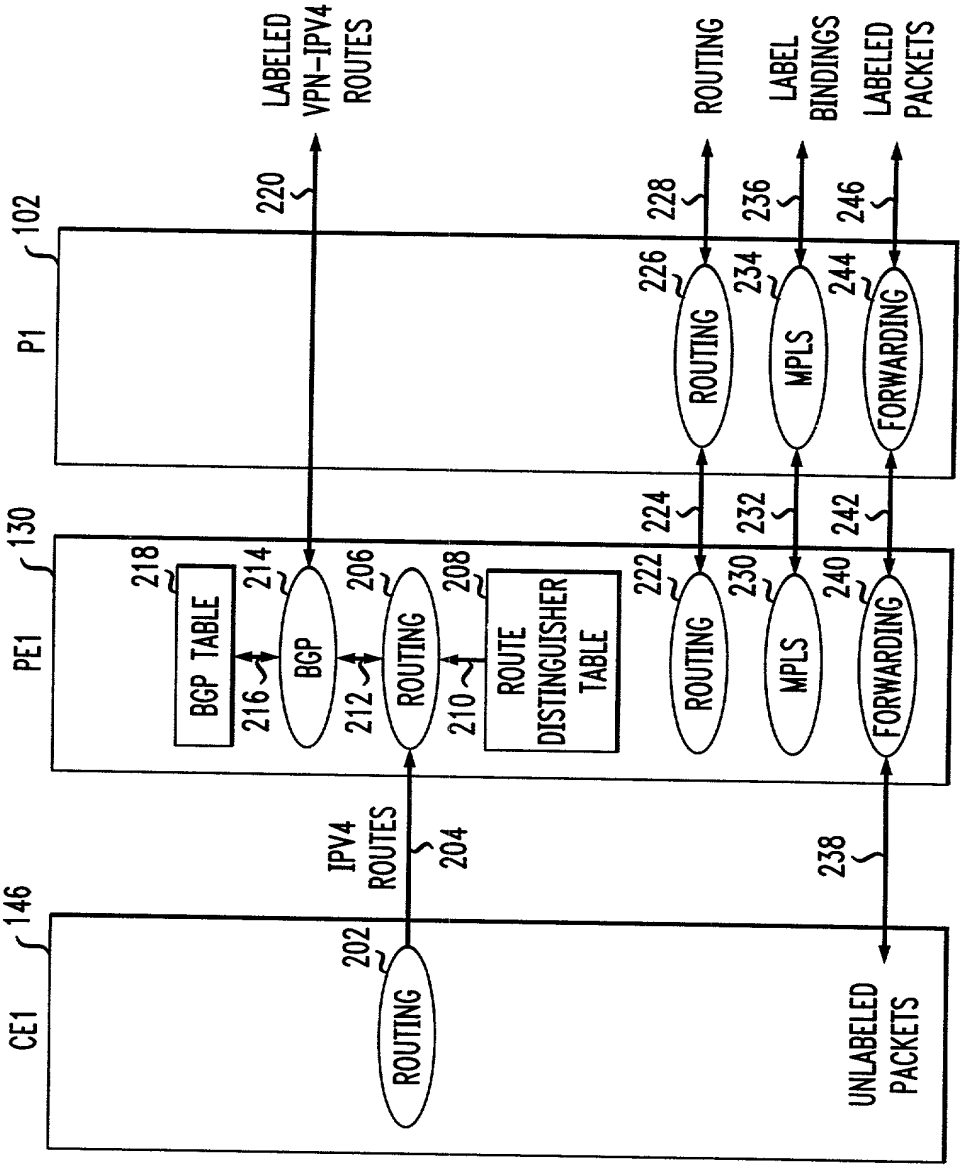


FIG. 2A
PRIOR ART

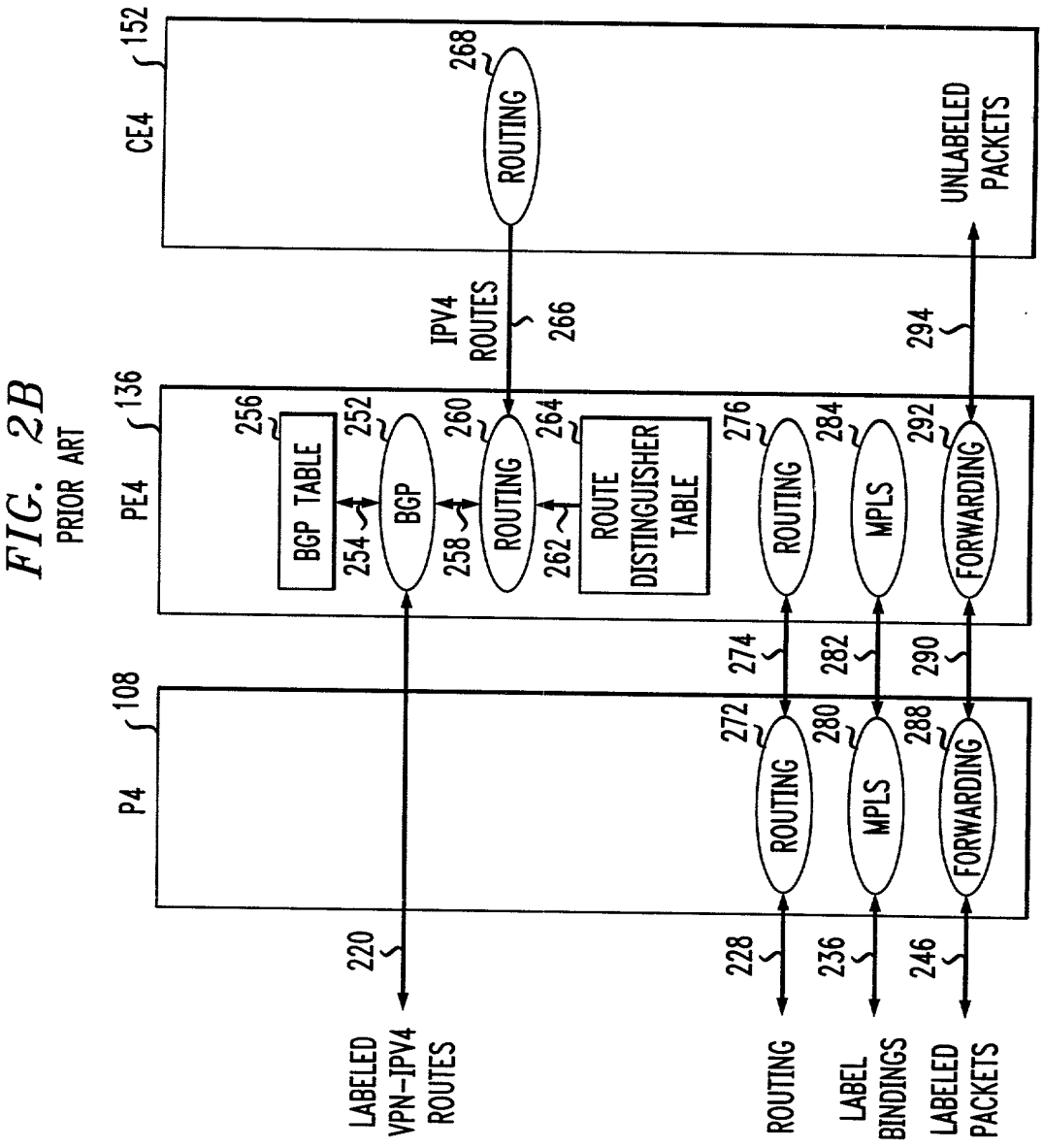


FIG. 2B
PRIOR ART

FIG. 3
PRIOR ART

208

INPUT INTERFACE ADDRESS (302)	ROUTE DISTINGUISHER (304)
10.1.1.1	89:17

FIG. 4
PRIOR ART

218

VPN-IPV4 ADDRESS (402)	BGP NEXT HOP ADDRESS (404)
89:17:10.5.5.5	20.0.0.1

FIG. 5
PRIOR ART

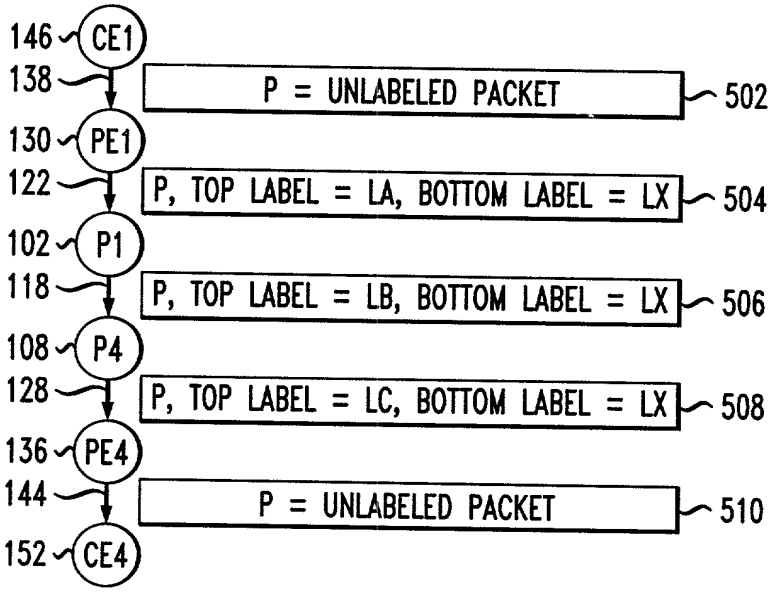


FIG. 6
PRIOR ART

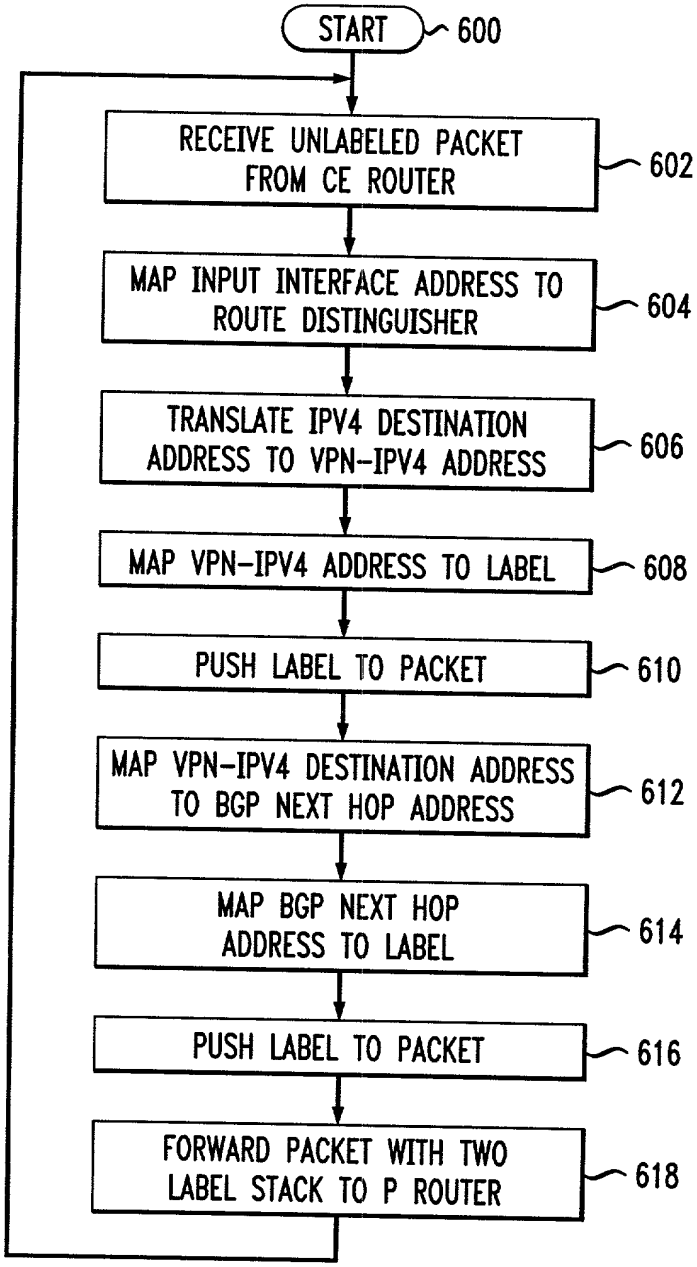


FIG. 7
PRIOR ART

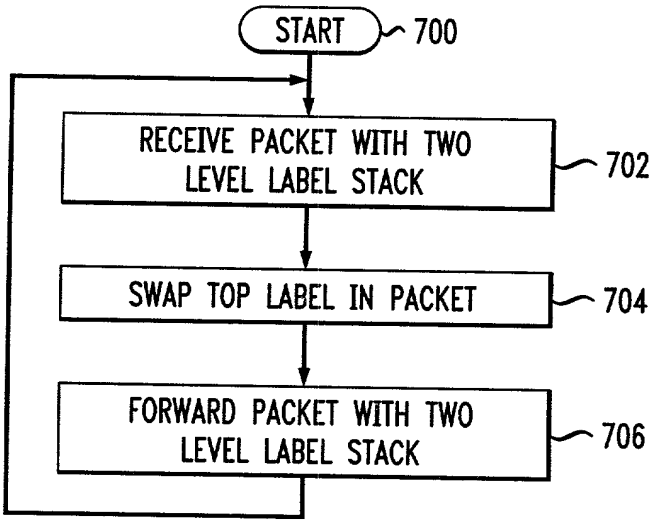


FIG. 8
PRIOR ART

800

802 INPUT INTERFACE ADDRESS	804 INPUT LABEL	806 OUTPUT INTERFACE ADDRESS	808 OUTPUT LABEL
20.0.0.10	14	20.0.0.20	39

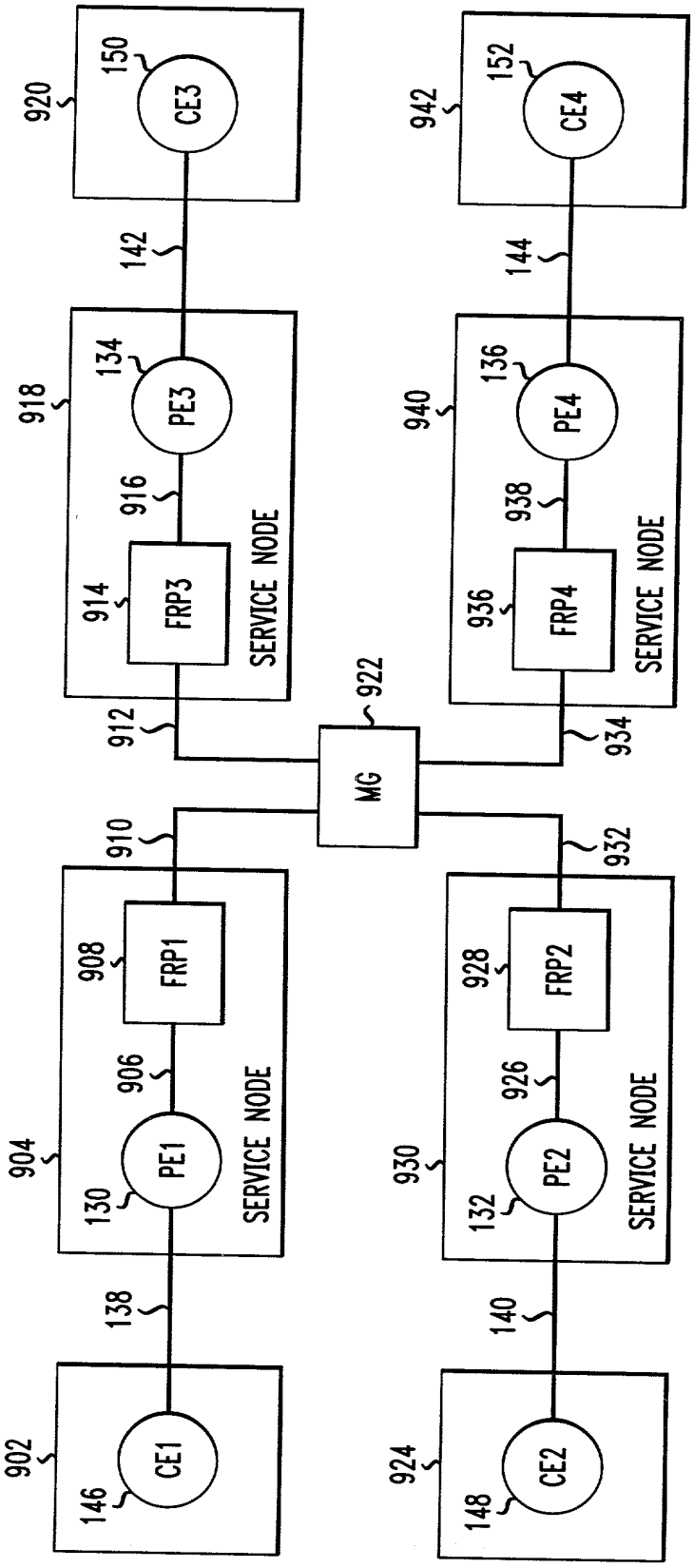

902
146
CE1
138
904
130
PE1
906
FRP1
908
910
SERVICE NODE
912
914
FRP3
916
PE3
134
918
SERVICE NODE
920
150
CE3
142
922
MG
924
148
CE2
140
930
132
PE2
926
FRP2
928
932
SERVICE NODE
934
936
FRP4
938
PE4
136
940
SERVICE NODE
942
152
CE4
144

FIG. 9

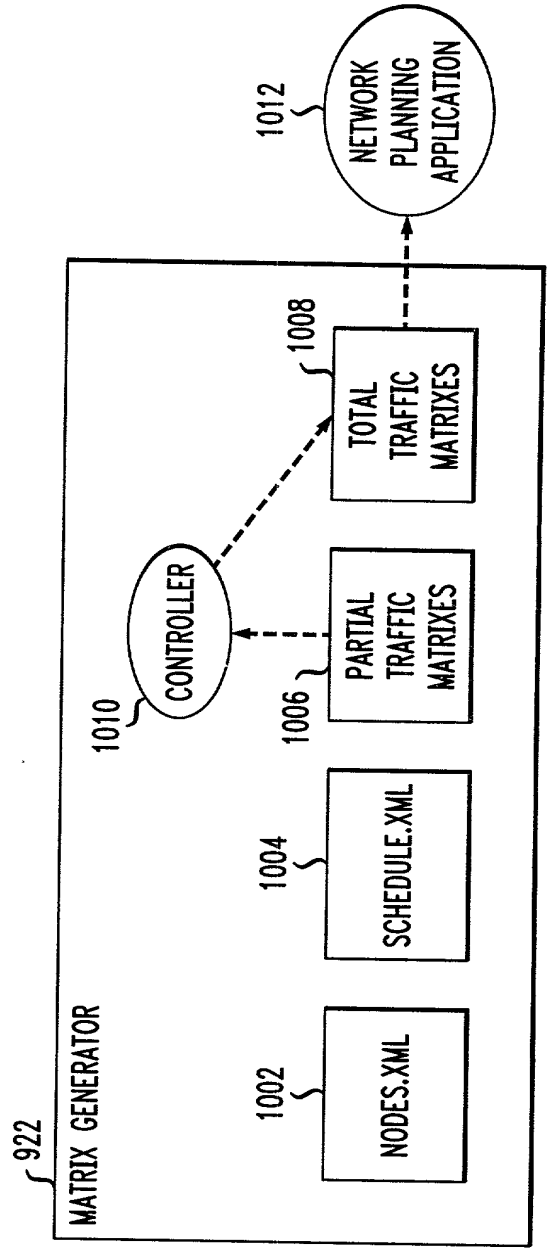

922
MATRIX GENERATOR
1002
NODES.XML
1004
SCHEDULE.XML
1006
PARTIAL TRAFFIC MATRIXES
1008
TOTAL TRAFFIC MATRIXES
1010
CONTROLLER
1012
NETWORK PLANNING APPLICATION

FIG. 10

FIG. 11

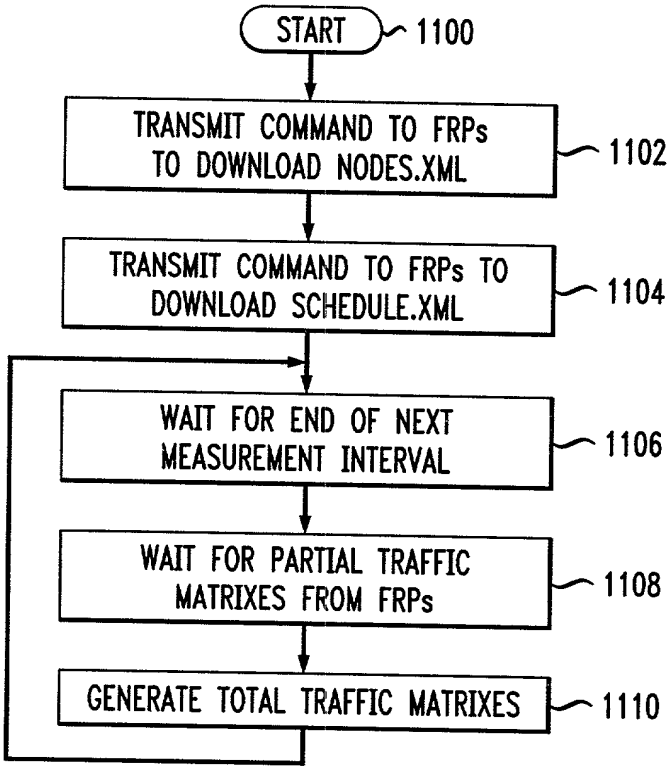

START
1100
TRANSMIT COMMAND TO FRPs TO DOWNLOAD NODES.XML
1102
TRANSMIT COMMAND TO FRPs TO DOWNLOAD SCHEDULE.XML
1104
WAIT FOR END OF NEXT MEASUREMENT INTERVAL
1106
WAIT FOR PARTIAL TRAFFIC MATRIXES FROM FRPs
1108
GENERATE TOTAL TRAFFIC MATRIXES
1110

FIG. 12

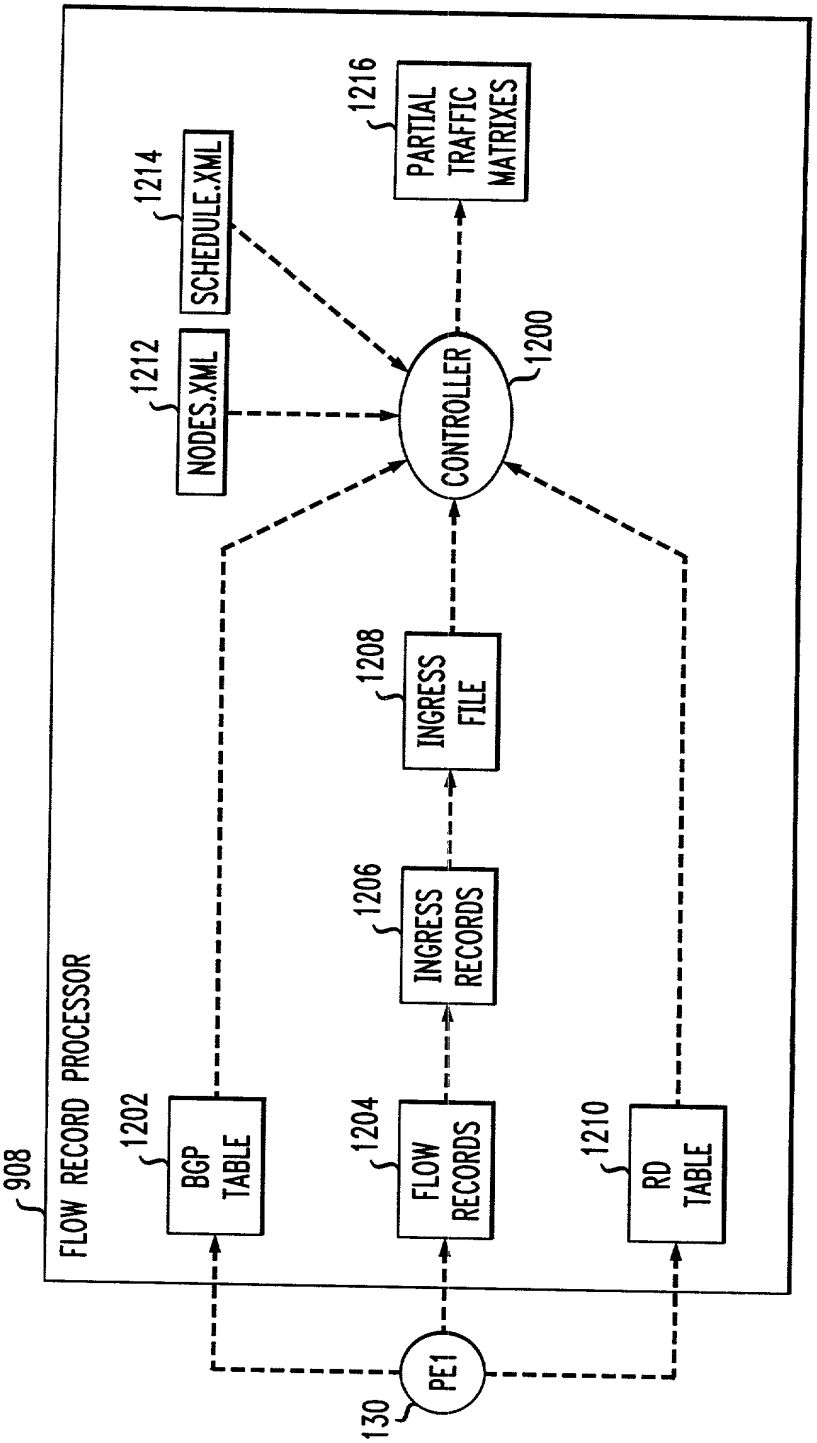

FLOW RECORD PROCESSOR
908
BGP TABLE
1202
FLOW RECORDS
1204
INGRESS RECORDS
1206
INGRESS FILE
1208
RD TABLE
1210
PE1
130
CONTROLLER
1200
NODES.XML
1212
SCHEDULE.XML
1214
PARTIAL TRAFFIC MATRIXES
1216

FIG. 13

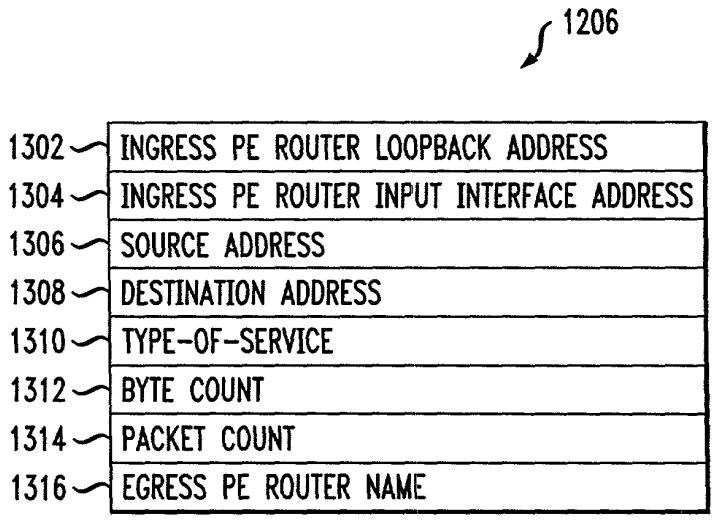

1206
1302
INGRESS PE ROUTER LOOPBACK ADDRESS
1304
INGRESS PE ROUTER INPUT INTERFACE ADDRESS
1306
SOURCE ADDRESS
1308
DESTINATION ADDRESS
1310
TYPE-OF-SERVICE
1312
BYTE COUNT
1314
PACKET COUNT
1316
EGRESS PE ROUTER NAME

FIG. 14A

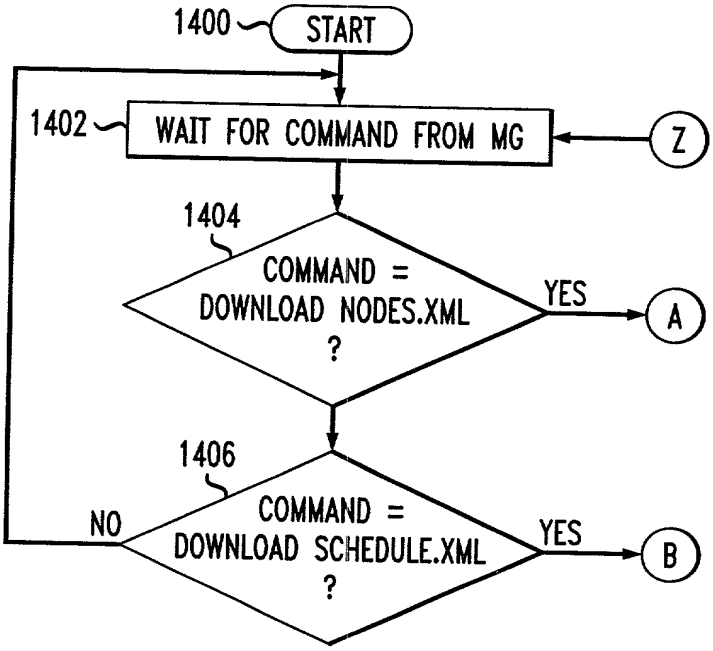


FIG. 14B

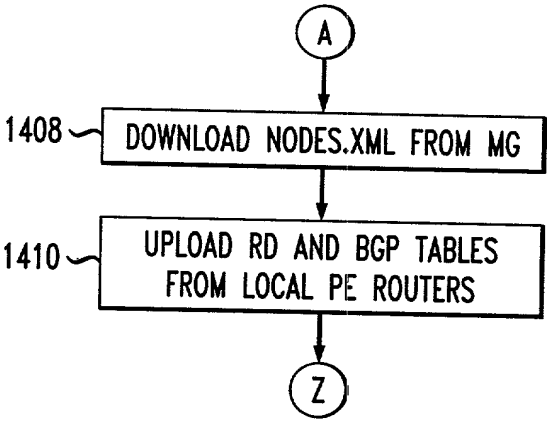


FIG. 14C

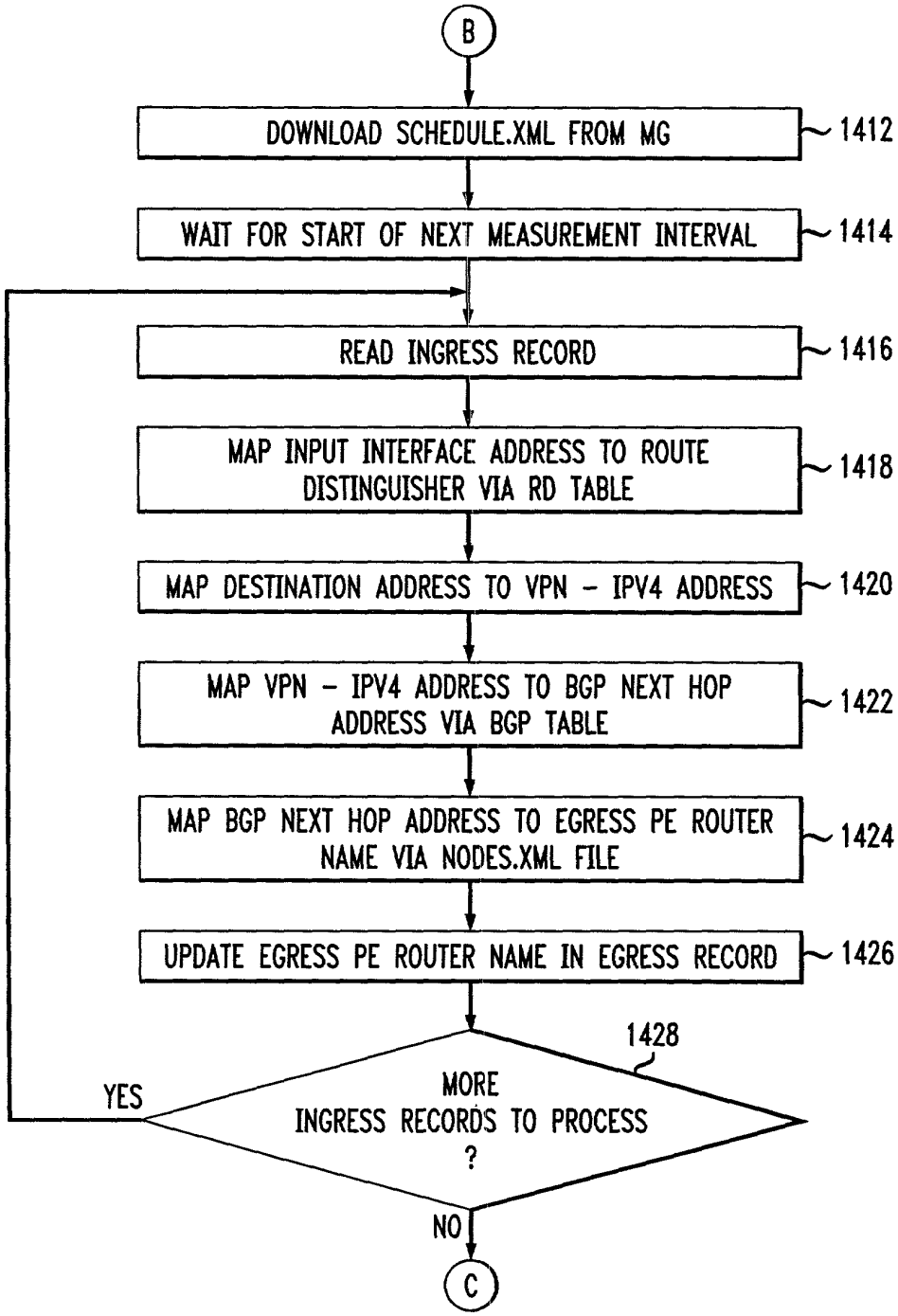

B
DOWNLOAD SCHEDULE.XML FROM MG
1412
WAIT FOR START OF NEXT MEASUREMENT INTERVAL
1414
READ INGRESS RECORD
1416
MAP INPUT INTERFACE ADDRESS TO ROUTE DISTINGUISHER VIA RD TABLE
1418
MAP DESTINATION ADDRESS TO VPN - IPV4 ADDRESS
1420
MAP VPN - IPV4 ADDRESS TO BGP NEXT HOP ADDRESS VIA BGP TABLE
1422
MAP BGP NEXT HOP ADDRESS TO EGRESS PE ROUTER NAME VIA NODES.XML FILE
1424
UPDATE EGRESS PE ROUTER NAME IN EGRESS RECORD
1426
1428
MORE INGRESS RECORDS TO PROCESS ?
YES
NO
C

FIG. 14D

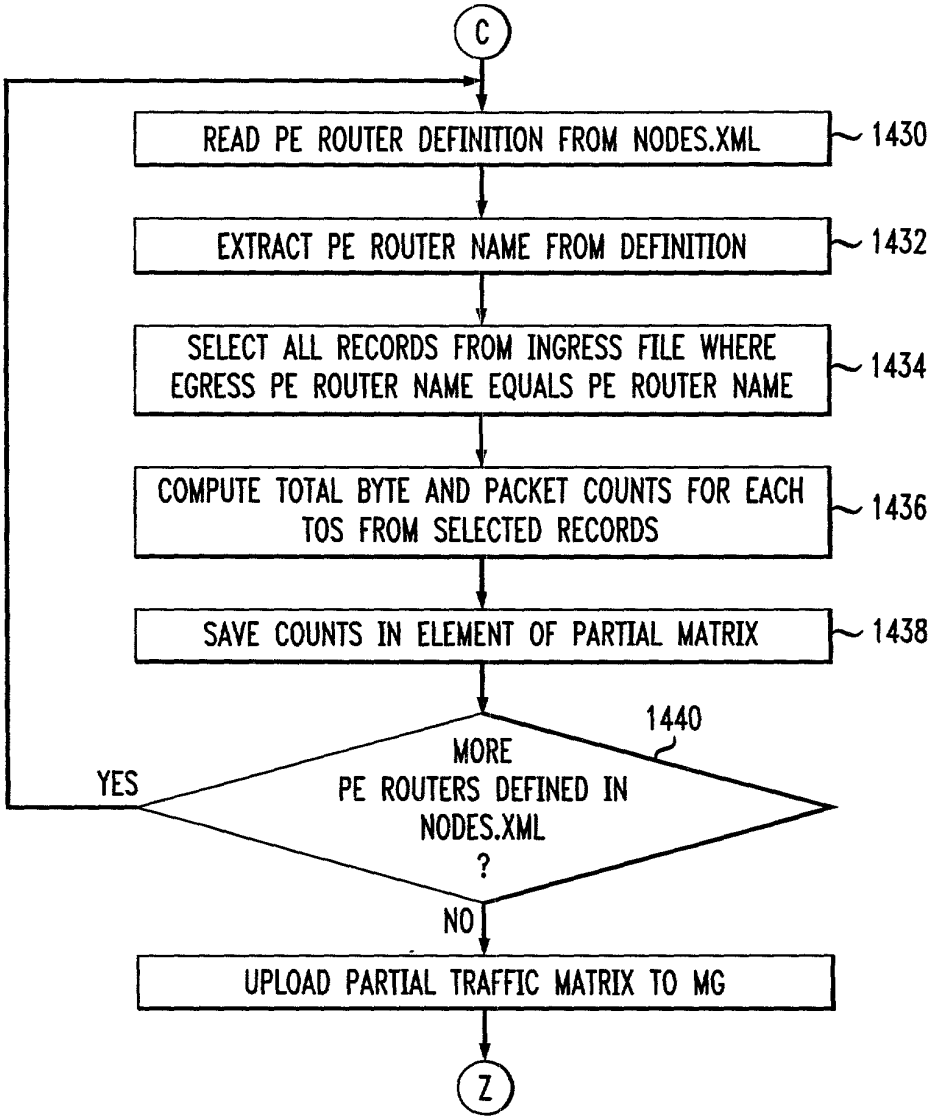


FIG. 15

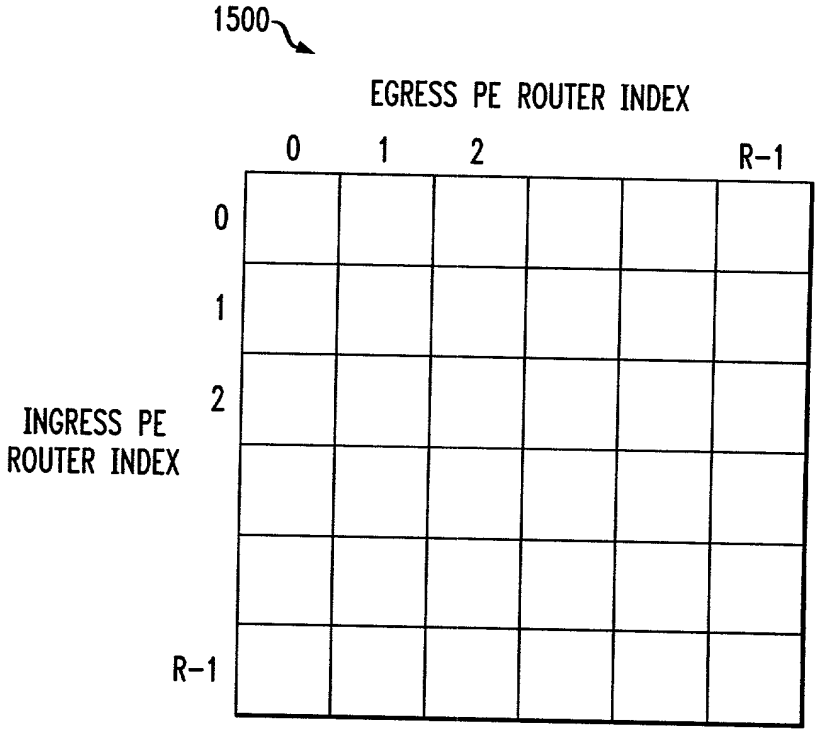
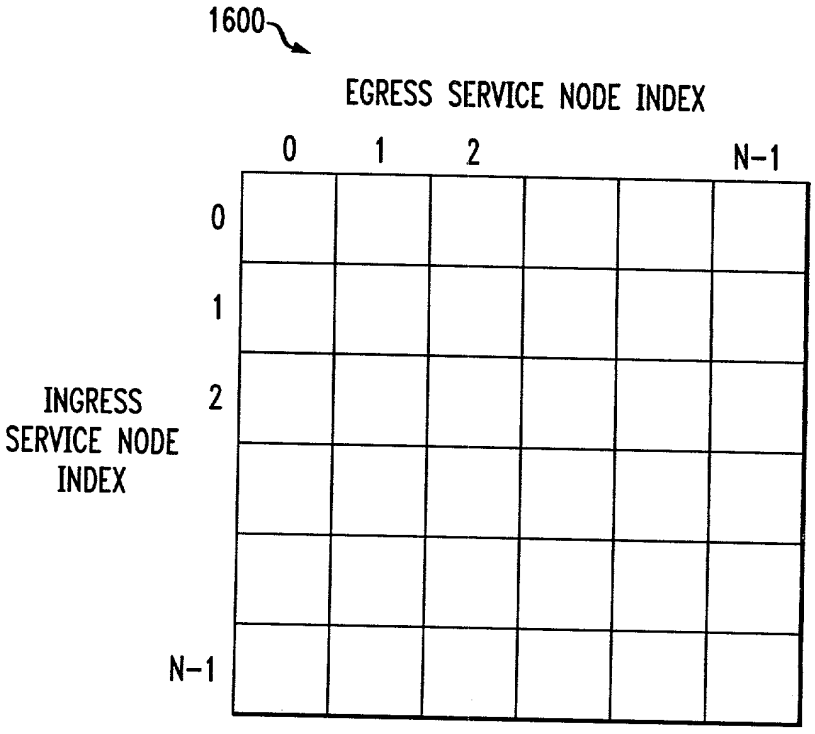

1500
EGRESS PE ROUTER INDEX
0
1
2
R-1
INGRESS PE ROUTER INDEX
0
1
2
R-1

FIG. 16


1600
EGRESS SERVICE NODE INDEX
0
1
2
N-1
INGRESS SERVICE NODE INDEX
0
1
2
N-1